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**Housing affordability:
Proper Measurement for Informed Policy Making**

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Abstract:

The broadly accepted housing affordability indicator is calculated as the housing cost-to-income ratio. But this only takes into consideration two averaged variables: household housing costs and household income, both of which are ambiguous and misleading as an across-the-board average. An alternative system of housing affordability measurement is suggested in this paper based on disposable income left after accounting for housing expenses. In contrary to the broadly used conventional indicator, the proposed measurement takes into account different income groups, ages and types of households as well as the level of housing consumption. This indicator, combined with the "after housing poverty line" allows for the singling out of groups of households most in need of housing help, and therefore develop more informed housing policies. Based on the proposed system of measurement, an extensive empirical work is presented using the series of the ABS Income and Housing Surveys. The results demonstrate, from a new angle, the dynamics of housing affordability in Australia during the recent decade which leads to policy implications different to policies currently in use.

Key words: Housing affordability measurement, income after housing costs.

JEL Classifications: H20, H12, R31, R38

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1. Introduction

Since, for most people the cost of their housing is the single largest component of their household expenditure, any increase in this cost negatively affects their welfare, purchasing power, standard of living and, consequently, the overall economy and the future of the nation.

Further, problems with housing and its cost have knock-on effects. They can lead to concentration of unemployment in particular areas and other disadvantages. With the grouping together of large groups of low income or unemployed, which often means low skilled people, in turn, can lead-on to higher levels of indebtedness, crime and vandalism (Evans, 1998). The cost of housing, therefore, needs to be on the agenda of public discourse, applied economic research, and policy decision making, along with social welfare, education and healthcare. However, good policy decision making requires the very best portrait of the current situation that can be painted.

The recent sharp decrease in interest rates seems to have overshadowed the problem of housing affordability. So has the Federal Government's first economic stimulus package, where doubling and tripling — for new houses — of the first home owner grant is a key expenditure item. Unfortunately, this policy is based on a misconception of what housing affordability really means.

This paper addresses the issue of housing affordability from the theoretical, empirical and public policy perspectives.

From the theoretical perspective, the definition and measuring of housing affordability are considered. The existing approach to housing affordability measurement, in particular, requires further development and improvement. Currently only overall aggregated scalar indicators are constructed and taken into consideration in policy debates. Meaning while housing affordability metrics should provide a more accurate picture of the current situation they should also highlight the areas of public policy that need attention, the groups of population and households that most need help. Furthermore, the magnitude of the housing problem cannot be properly understood without taking into account the proportion and types of households that are most stressed. For this reason an approach to differentiated (vector) housing affordability indicator is suggested.

From the empirical perspective, the proposed system of measurement is used for computing the system of income after housing indicators based on five ABS income and Housing Surveys from 1995 to 2005. The very detailed nature of those surveys allows for differentiating household types by disposable income, age, the number of persons, and the composition of families. Furthermore, households differ by the housing consumption. A single measure of housing consumption is proposed for differentiating households by the number bedrooms as compared to the number of people in the family. In addition the computed indicators for each of the differentiated household cluster are compared with Melbourne University's "Income after housing poverty line (The University of Melbourne, 2008). The data shows that the largest increase in household housing expenditure has occurred around the median housing costs, rather than at the 25th and 75th percentile. The greatest hardship, in terms of income after housing, has been experienced by people in the 45-60-year age group, single households and single-parent households where the number of household occupants exceeds the number of bedrooms. Therefore, by no means are first-home buyers always the neediest.

From the public policy perspective, the current policies are put in the perspective of this paper's empirical results, and the alternative policies are discussed. The differentiated income after housing data demonstrated that by no means the most vulnerable categories of

population always young or first home buyers. Neither do we believe that the categories of population most in need considerably benefit from mostly demand side policies currently in place. In conclusion we argue for alternative supply side policies.

2. Measuring Housing Affordability

2.1 Existing and Proposed Measures

The concept of housing affordability is problematic as it encompasses a range of issues that have been reflected in the literature. Those issues include taking into account the distribution of housing prices, quality of housing, households' income, the ability of households to borrow, and the consumption choices and preferences of households (Brescia, 2005). Hence due to its complexity any one measure will struggle to demonstrate the situation accurately. (Bramley, 1990) stated that a household should be able to occupy housing that meets well-established norms of adequacy at a net rent that leaves them adequate disposable income without falling below some poverty standard. These measurements must be able to uncover the net rent, since households are presumably rational utility-maximisers, every household is by definition paying "just what it can afford" for housing (M. E Stone, 2006). A measure has to be an accurate reflection of the market it is trying to evaluate. It needs to be able to assess whether government policies are effective in what was intended to be achieved.

The broadly accepted notion of the dramatically declining housing affordability in this country is based on the housing costs to income ratio. However, this indicator takes into consideration only two aggregate variables: housing costs and previous financial year income, both of which are ambiguous and misleading if used for the aggregate (across the board) assessment of the affordability of housing. The average housing costs data does not take into consideration variation in the household types, households' income levels, age, and "consumption of housing" patterns. On the income side, sources of funding, covering housing expenditure other than weekly income flows are not accounted for. Savings, wealth accumulated in other assets, as well as within family transfers are currently excluded from consideration. The ratio applies a statistical average of a group of household to individual households, leading to the problem of statistical discrimination (Hulchanski, 1995).

Furthermore, this approach to measurement fails to account for the diversity in household types, stages in the life cycle of the maintainers of each household and the great diversity in household consumption patterns. While the commonly used ratio is easy to measure, apply and understand, it does show a misleading picture of how households experience the strain between housing costs and income (M. E Stone, 2006).

Particularly, there are two main population/household groups for which this ratio can be ineffective, even if the statistical measurement were to be accurate. The first one includes people that choose to "under-consume" housing. This means consuming housing at a lower level than would reasonably and culturally be expected, and leading to their housing burden being lower than expected. The second one are those who choose to live in better or higher quality housing than would reasonably and culturally be expected. This results in households' financial strain due to over consumption (Thalmann, 1999).

The approach is also problematic because it measures current housing costs against last year's income. This can result in the ratio being biased as household income typically rises over time. The ratio definition makes it possible for individuals to be consuming very little of either housing or other goods for the cost of housing to be deemed affordable (M. E Stone, 2006a).

Stone's (2006) has suggested an alternative approach dealing with "standard" residual income after housing. This measure attempts at has setting a budget standard for each type of household, linking it to a certain level of income. One of the main reasons why this measure has not been used as widely as the income-to-housing expenditure ratio is its difficulty to quantify and to understand.

Meanwhile, as the residual approach takes into consideration the size and leftover incomes of households, it is a better model to use when comparing two household types. At the same time, the housing-to-income model is a better model to use when measuring changes in affordability of housing of one household type, both geographically and over time (Research, 2004). This mirrors many of the problems that the housing-to-income ratio has, with housing quality only been considered at a single specific point in time.

The idea of basing measurement on percentage of income left over after paying for housing might be misleading. With a low-income earner, the percentage of income the earner needs to be able to purchase non-housing necessities is at a much higher level than that of a high-income earner. The basic budget standard sets an amount of money to purchase an adequate level of non-housing necessities, this can be very different to the amount represented by a percentage of a person's income (M. E Stone, 2006).

Another alternative is to compare housing cost to housing production costs. This approach reflects the understanding that if there is an affordability crisis then housing is expensive relative to its cost of production, not that people are poor. Moreover, the affordability problem arises when the amount that people are required to pay for housing is substantially greater than the cost of producing or constructing the housing. However, if the gap between housing costs is small it can be argued that the problem is not affordability but poverty (Glaeser & Gyourko, 2002).

2.2 Income after Housing as an Indicator of Housing Affordability

In this paper we utilize the residual income after housing approach. However, an attempt is made to avoid setting benchmarks suggested by Stone (2006). Stone's system of measurement has struggled to be operational due to its complex nature, it tries to set a budget standard for each type of household, linking it to a certain level of income. With the complex consumption nature of household having a set budget standard for each type of household, is an ambitious aim that can be difficult to understand. In contrary, the measure introduced in this paper looks at the absolute values of income after housing costs. Income is included from all sources, and the housing costs include all types of costs. Such an indicator, then, makes sense, only if it is computed and compared for different income levels, age categories, "consumption of housing" the number of bedrooms by number of people in that household and the household types that correlated with the Melbourne University poverty line (The University of Melbourne, 2008). One can look at each cluster separately, which keeps prices constant and uses accumulated growth over the time period of the surveys to examine the changes.

In contrary to the commonly used scalar/averaged indicators of housing affordability, the proposed ones are vectors, each component of which is related to a particular cluster of population/households. Furthermore, the availability of surveys for a number of years allows for investigating dynamics in terms of accumulated growth across different clusters by income group, age, type of household, "consumption of housing" as well as by after housing poverty line benchmark. The consideration of different income groups is something that is sorely missed from many attempts of measuring housing affordability. Clustering income and

age groups allows for better understanding of the changes in the housing market. The clusters that are based on the “consumption of housing” indicator are designed to differentiate the population/households according to their housing life styles. Looking at the groups of population/households with similar patterns of the consumption of housing allows for tracking changes in housing costs for comparable “amounts of housing”. Increase in those costs would show changes in the affordability of housing with regard to different levels of the “consumption of housing”. The use of the after housing poverty line allows for tracking the dynamics of the proportion of households below that line in different clusters, and identifies those clusters that are the most vulnerable, and therefore should be immediate targets of public policies.

Each of the clusters are considered in the mean, median and 25 and 75 percentile, with regard to the following variables: total income, income after housing costs and housing costs. This is done, not only to look at the change for the middle section of the cluster, but also to look at changes in the upper and lower ranges, especially in the lower percentile in which affordability of housing is a greater issue.

The variables are demonstrated in the form of accumulated growth. This gives a base against which any changes in figures are better reflected. A change is relative to overall size so, for example, a \$20 increase to the 25 percentile should reflect its importance compared to its importance in the 75 percentile

The age clusters are used of 15-29, 30-44, 45-60 and 61+. This is done to evaluate the changes that have occurred to the different ages, comparing growth and changes in ranking between them.

The consumption of housing when increasing can be a reason for increase in housing costs by itself. An important aspect of this study is, therefore, to look at the dynamics of housing affordability at the fixed “value” of the consumption of housing. For this purpose the “consumption of housing” variable is introduced as the number of bedrooms per number of people in household. This allows comparing those “consuming” below, equal to and more than one bedroom per a person.

The income after housing benchmark is used, based on the understanding that, in practice, households will want to occupy housing that meets well established norms of adequacy at a net rent that leaves them adequate disposable income without them falling below some poverty standard (Hancock, 1993). What is this adequate disposable income level that needs to be determined? We suggest to compare the disposable income after housing costs to be compared with “poverty line after housing” produced at the University of Melbourne (The University of Melbourne, 2008). Fortunately, many of the categories of households and age groups for which this poverty line indicator have established can be mapped onto the clusters we are able to define based on ABS Income and Housing surveys.

The households below the poverty line are then evaluated in order to gain a better understanding of their housing patterns. The variables looked at include the number of bedrooms, income after housing and the age of the reference persons. The number of bedrooms relates back to the earlier introduced consumption of housing levels. To further improve understanding of the housing factor of poverty is isolated from other poverty factors, to examine the impact of housing costs in pushing households into poverty. By comparing the percentage of those that are below the poverty line before housing against those that are below the poverty line after housing, we can distinguish those who are simply in poverty due to low incomes.

2.3. Data sources

The methodology used in this study is partially driven by available data. The data comes from the Income and Housing Surveys carried out by the Australian Bureau of Statistics for the years 1995-96, 1996-97, 1999-2000, 2000-01 and 2005-06. These provide detailed information about households (Australian Bureau of Statistics, 1995-96, 1996-97, 1999-2000, 2000-01, 2005-06). The data acquired from the ABS, Income and housing survey, have ranged in size from 9000 to 13000 households per a survey. The data is imputed at both household and individual level responses. An income unit segments is included in some of the surveys.

The CPI data is used to excludes changes in house prices, financial and insurance services. (Australian Bureau of Statistics, 2008). The changes in house prices are taken out of the general CPI movements. It is easier to compare values in real terms when inflationary changes are removed.

3. Housing Affordability in Australia in 1995-2005: Some empirical results

3.1 All households in the survey clustered by income levels

This section introduces the housing affordability indicators based on the entire samples, variables - total income, housing costs and income after housing in 1996 Australian dollars and accumulated growth from that year - segregated in the mean, median, 25 and 75 percentiles.

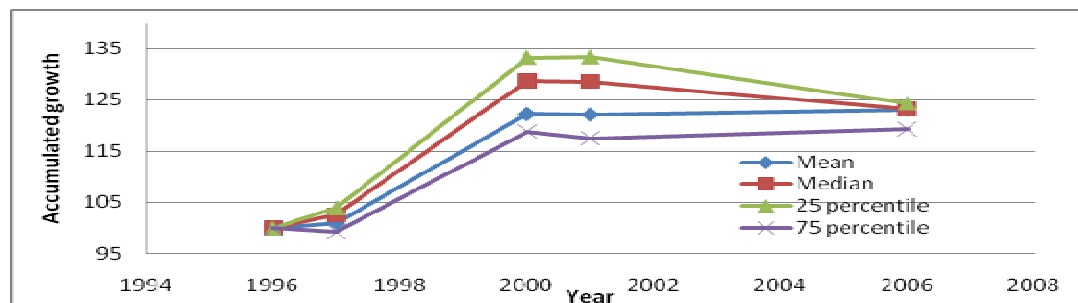


Figure 3.1.1 The accumulated growth of total income of the entire sample with mean, median, 25 and 75 percentiles in 1996 dollars

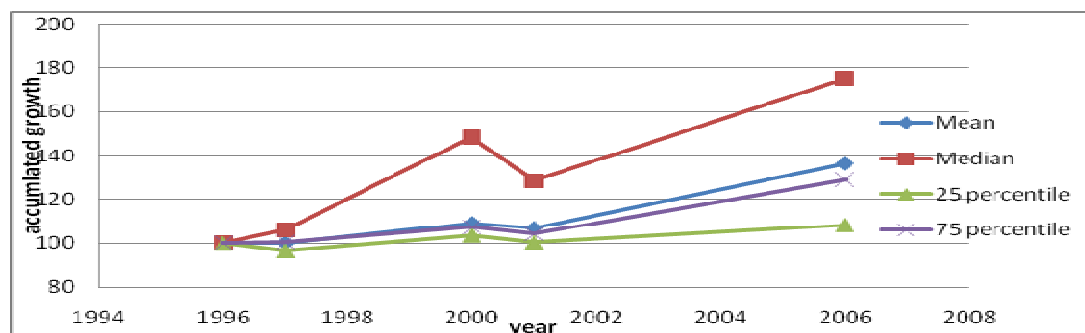


Figure 3.1.2 The accumulated growth of house costs of the entire sample with mean, median, 25 and 75 percentiles in 1996 dollars

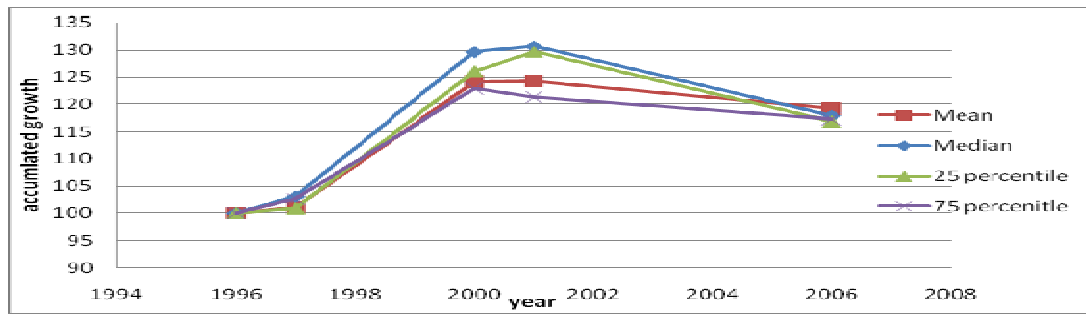


Figure 3.1.3 The accumulated growth of total income minus housing costs of the entire sample with mean, median, 25 and 75 percentiles in 1996 dollars

A clear trend can be seen on the figures from 3.1.1 to 3.1.3. The total income and income after housing cost increased dramatically from 1996 by up to 20 to 30 percent by 2001. Then as total income either fell or remained constant, housing cost increased dramatically from 2001, where by 2006 the median had increased almost 80 percent from 1996. This is reflected in the income after housing costs in which every measure of the survey decreased in growth from 2001. What is most interesting is that the largest growth in housing cost has been in the median, which is not distorted by outliers.

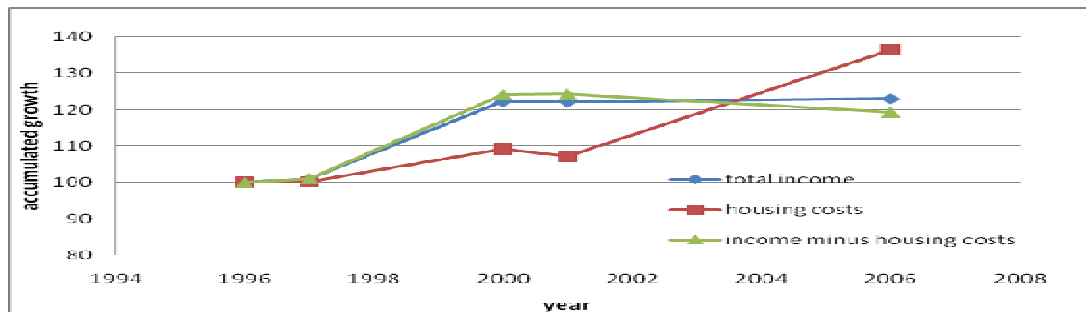


Figure 3.1.4 The accumulated growth of the mean of total income, housing costs and total income minus housing costs in 1996 dollars

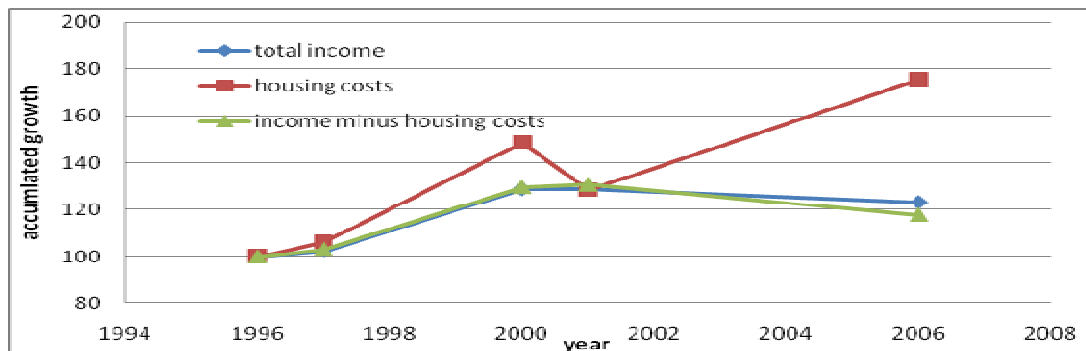


Figure 3.1.5 The accumulated growth of the median of total income, housing costs and total income minus housing costs in 1996 dollars

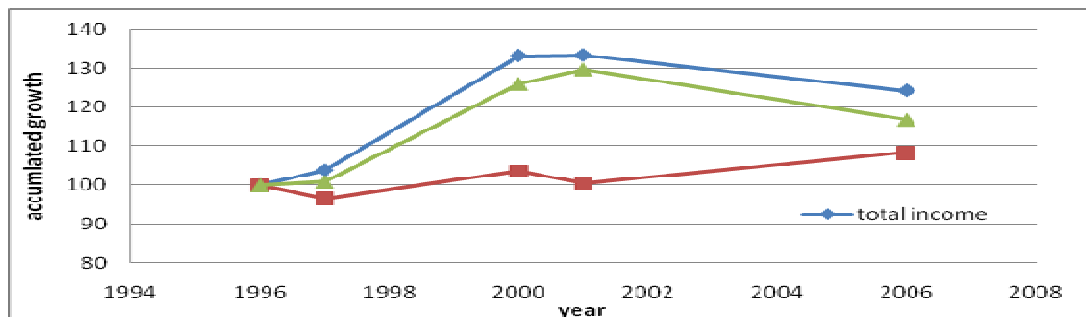


Figure 3.1.6 The accumulated growth of the 25 percentile of total income, housing costs and total income minus housing costs in 1996 dollars

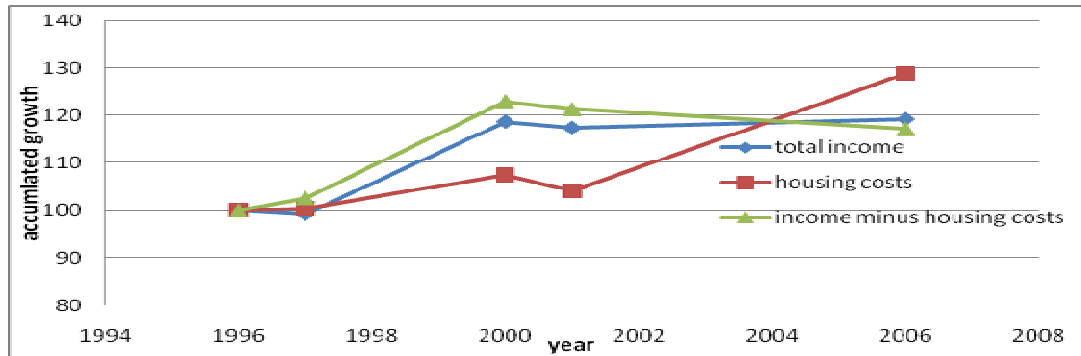


Figure 3.1.7 The accumulated growth of the 75 percentile of total income, housing costs and total income minus housing costs in 1996 dollars

The Figures from 3.1.4 to 3.1.7 show that by 2006 in all categories, housing costs had increased at a rate greater than total income, except in the 25 percentile. They also demonstrate that those that are most affected are the middle or median of the survey. This category has experienced consistent increase in housing at a greater rate than either total income or income after housing. The other sections of the survey samples demonstrate increase in income at a faster rate than housing costs up to 2001. The 25 percentile shows greater growth in income than housing costs but the gap is closing quickly. This percentile has had the largest growth proportionally than other sectors in income and the lowest rise in housing costs.

Therefore, those under most pressure are not solely the low-income earners but increasingly the median income earners. This category of households is forced to spend using increasing proportion of their income on housing. This supports the findings of Berry and Dalton (2004) that housing choice and affordability have declined noticeably for many low and middle income households due to their housing costs increasing at a greater rate than incomes. Such an increase in housing costs is not a new finding in general. These results, however, single out the segment of population where those rather negative changes are actually occurring. Meanwhile, the demonstrated decline in housing affordability had been happening in the face of impressive growth in Australia.

Berry & Dalton, 2004, (p. 70) further suggest that “Rapid house price inflation in the major cities has run ahead of average growth in wages and social security benefits”. The above mentioned results show a situation slightly different to this statement. At the time of the publication of the surveys, according to the survey data, incomes were growing at a faster rate until around 2004, except for the median. What this shows is that, yes, the median is really getting worse, but this does not reflect the situation existing in the overall market. With the increase in housing costs, the number of years required to purchase a home in the major cities will increase. All this effectively reduces the housing choices of lower income households.

3.2 Age categories

This section demonstrates the dynamics of income after housing costs for different age clusters.

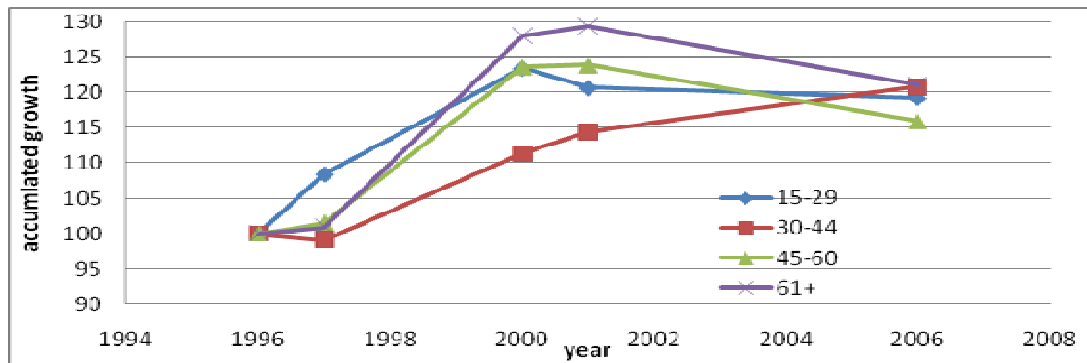


Figure 3.2.1 The accumulated growth in across the age categories for total income minus housing costs at the mean level

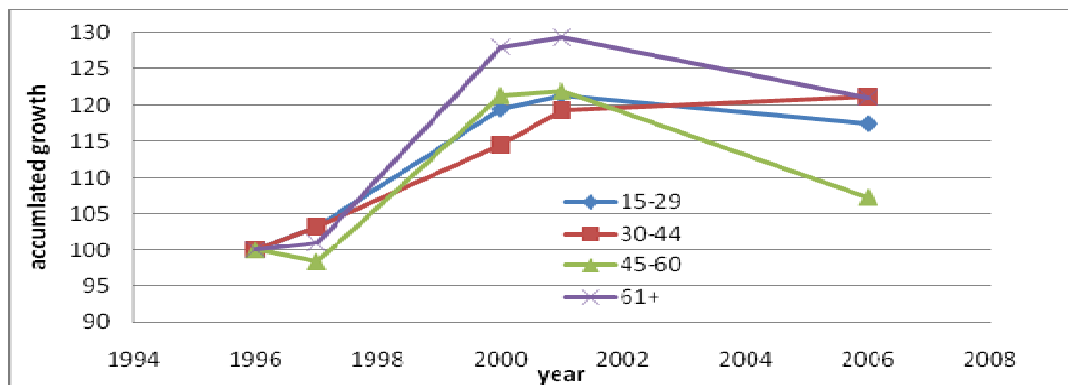


Figure 3.2.2 The accumulated growth in across the age categories for total income minus housing costs at the median level

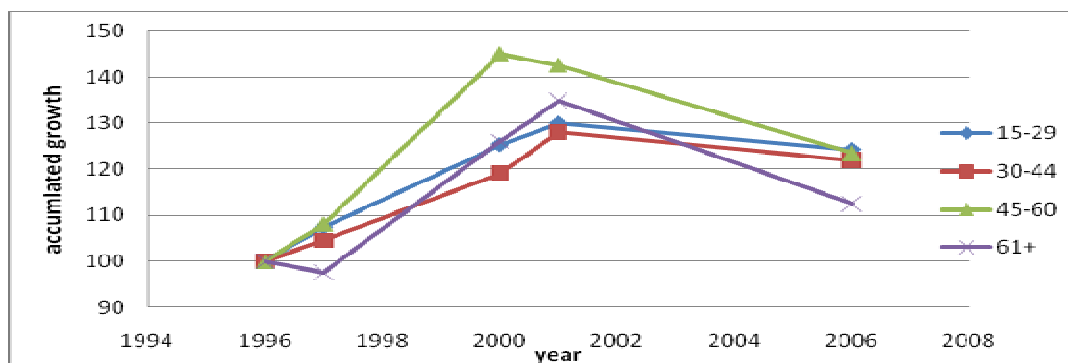


Figure 3.2.3 The accumulated growth in across the age categories for total income minus housing costs at the 25 percentile level

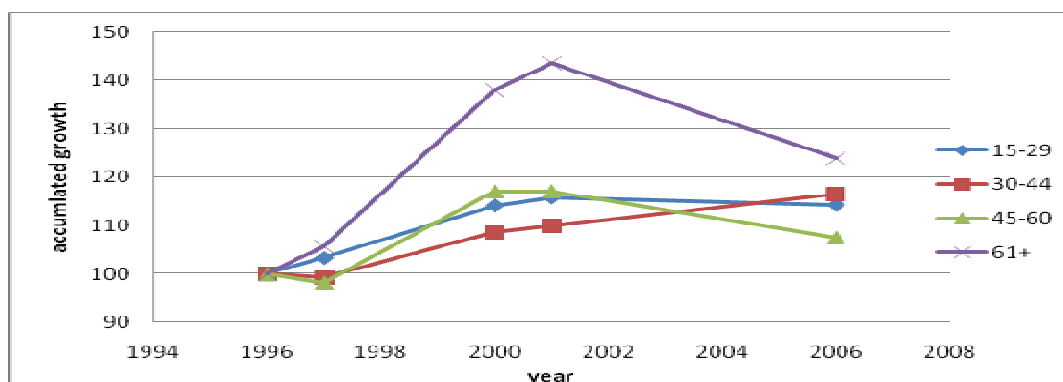


Figure 3.2.4 The accumulated growth in across the age categories for total income minus housing costs at the 75 percentile level

The mean and median values show that the 61+ age groups accumulated growth is proportionally the greatest over the survey period with a peak in 2001. The 30-44 age group contrasts with the other age groups by increasing at a steady rate in all measurements except in the 25 percentile. This compared with the 45-60 age category which, by 2006, had the lowest growth proportionally of any of the age groups except in the 25 percentile, which had the largest growth before finishing roughly even with the other age groups. The 45-60 age category, in the 75 percentile had not increased by more than 8% by the end of the survey period leading to this grouping to be of greatest concern.

The 45-60 age group is the period of life when people should be saving for a pension. Yet this is the area shown by the survey to be experience the lowest growth in income after housing costs. It is to be hoped that the housing costs that are incurred by this age group are for paying off mortgages on their homes as a way of savings for the longer. Where the age of the head of a household is in the 40's to 50's range, the question of saving is of great importance for an uncertain future when it comes to social security, especially for baby boomers (Bernheim, Forni, Gokhale, & Kotlikoff, 2000). The lack of growth when compared to other age categories shows worrying signs for the future. This will have a greater effect on females due to the fact that females tend to be younger than their husbands and live longer (Lundberg & Ward-Batts, 2000). Therefore, based on these numbers, specific policies need to be designed for this particular age group, especially with an aging population.

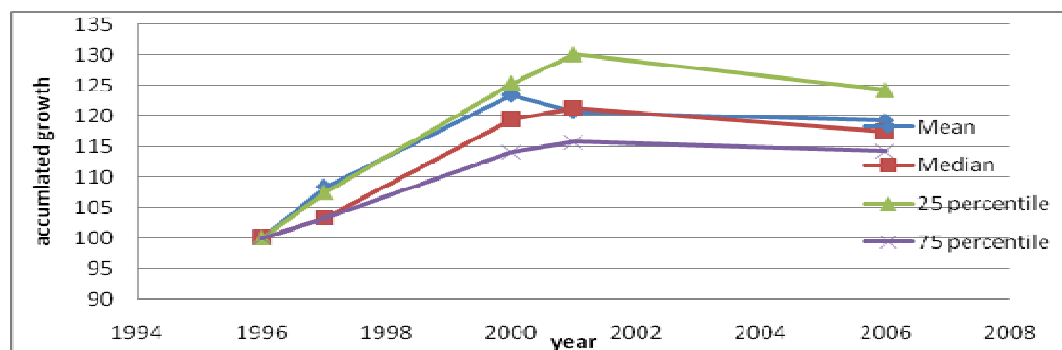


Figure 3.2.5 The accumulated growth in the 15-29 age category for total income minus housing costs at the mean, median, 25 and 75 percentile level

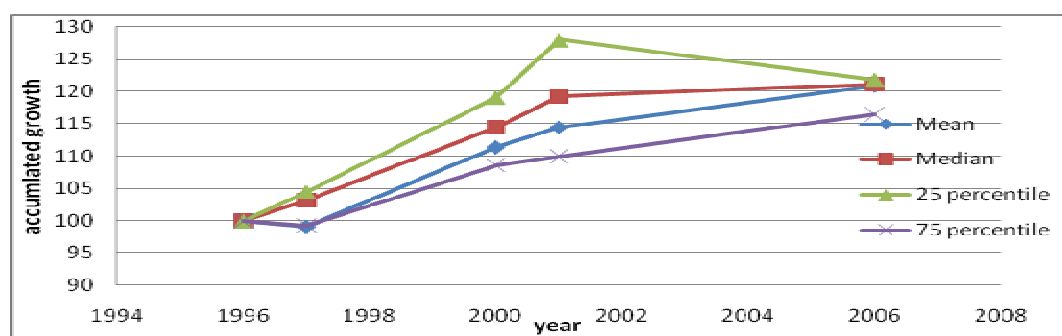


Figure 3.2.6 The accumulated growth in the 30-44 age category for total income minus housing costs at the mean, median, 25 and 75 percentile level

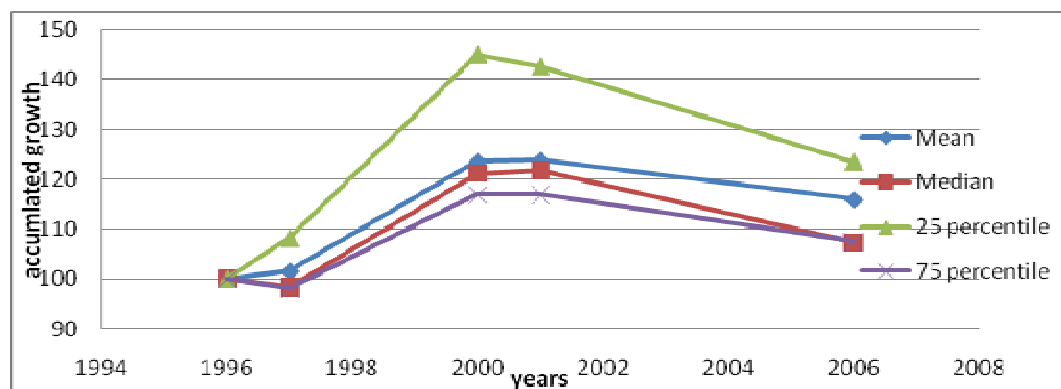


Figure 3.2.7 The accumulated growth in the 45-60 age category for total income minus housing costs at the mean, median, 25 and 75 percentile level

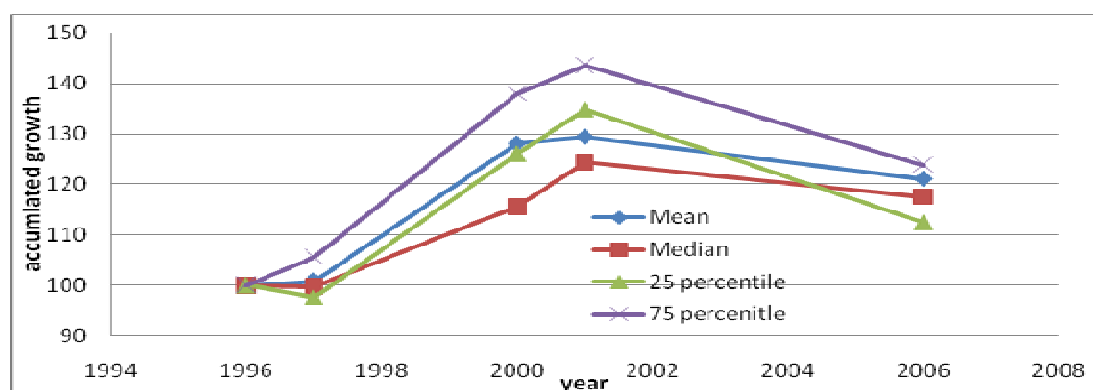


Figure 3.2.8 The accumulated growth in the 61+ age category for total income minus housing costs at the mean, median, 25 and 75 percentile level

The 15-29 age category's income after housing increased up until 2001 then remained constant or fell slightly, except in the 25 percentile, which had the greatest growth then fell but remained higher than the other measures in the category. The higher the total income after housing cost the lower the proportionate growth in this category.

The 30-44, age category's income after housing increased steadily across all measurements, except for a slight fall in the 25 percentile. The 45-60, category had the largest proportionate growth for any measurement and category in its 25 percentile measurement. The same category by 2006 had the lowest growth for every measurement, except the in the 25 percentile, which was marginally greater than the 30-44 category.

In the 61+ age category the trend is bucked, with the 75 percentile growing the most proportionally, which had, at one point, achieved the second highest growth. However, all measurements dropped after a high in 2001.

There are encouraging signs for the younger members of the population. For the two younger age categories measurements, both had steady growth up to 2001, and then remained almost constant thereafter. What should be noted is that the lower percentiles have grown the most in these categories. This means that if such a trend continues the gap between the 75 and 25 percentiles with regard to income after housing indicator will be reduced. There could be a couple of explanations for this. Firstly, that might be caused by the aging of the population and the subsequent skill shortages; younger people are able to earn more, resulting in greater after housing income. Secondly, there is a greater reliance on their parents, due to a reduction in available full time work, greater participation in education and changes to government income (Schneider, 2000). This leads to greater numbers staying at home for longer periods of time, and only those with larger starting incomes leaving home. This trend

corresponds to the tendency of falling home ownership by young people in other countries. (Haurin, Wachter, & Hendershott, 1995).

In Australia this has been mirrored with the age of first home buyers increasing from 27 to 32 (Urban development institute of Australia, 2007). Such an increase in and levelling out of the younger categories could just be a sign of a lack of home ownership by these categories.

3.3 Consumption of Housing

In this section, households that consume less than one unit of housing are compared with those consuming one such unit and more than one, where the consumption of housing is measured as the number of bedrooms in the accommodation occupied by the household divided by the number of people in the household.

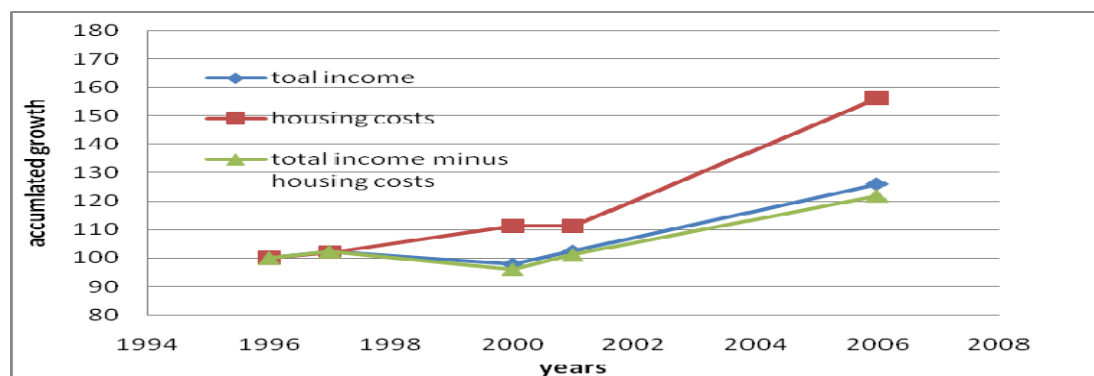


Figure 3.3.1 The mean results for accumulative growth for households consuming less than one housing unit

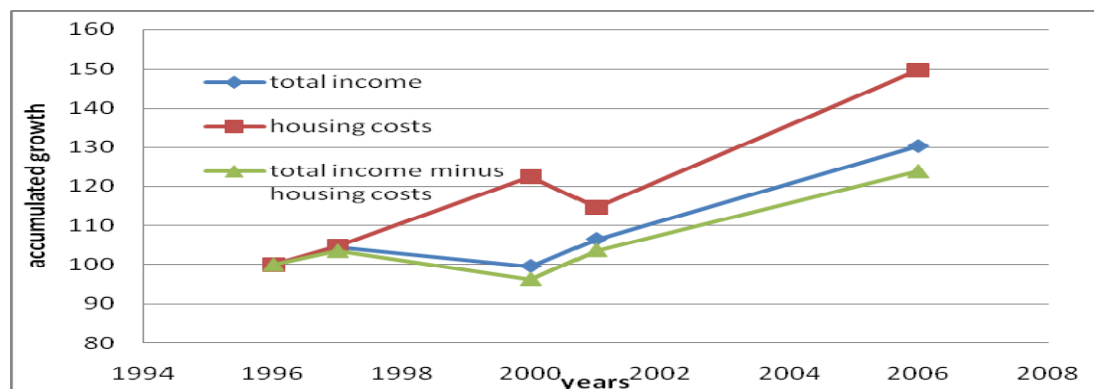


Figure 3.3.2 The median results for accumulative growth for households consuming less than one housing unit

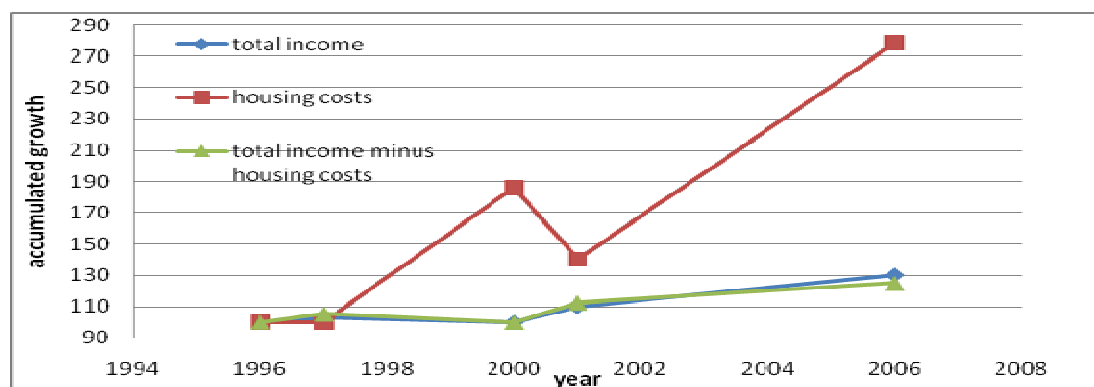


Figure 3.3.3 The 25 percentile result for accumulative growth for households consuming less than one housing unit

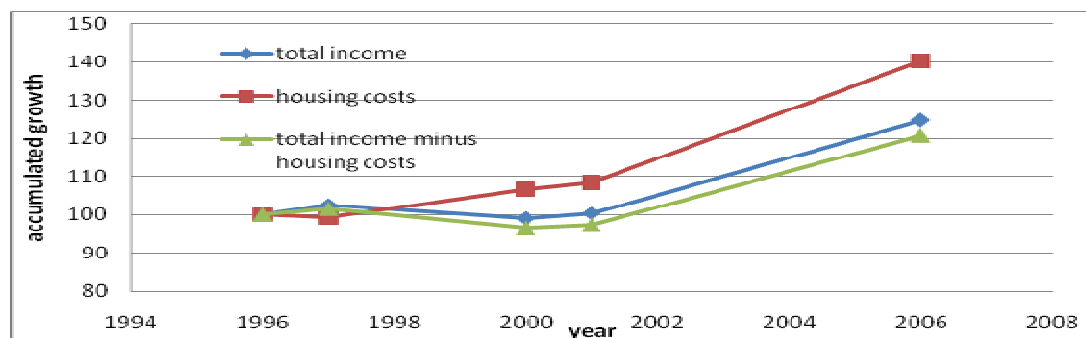


Figure 3.3.4 The 75 percentile result for accumulative growth for households consuming less than one housing unit

Figures from 3.3.1 to 3.3.4 show that at the level of consumption of less than one housing unit, the housing costs increased dramatically. In particular, in the 25 percentile segment the housing costs have increased by 170% on the base year of 1996. At the same time, the total income and income after housing costs have also increased over that period, even though, not so sharply, with housing cost increasing at a greater rate than the other two variables. This is a worrying sign for the future. With a tightening market, the supply of new affordable housing has to increase. Therefore, policies designed to improve the availability of housing, especially for those that are not over-consuming, are required.

The changing composition of households leads to changing needs; households are getting smaller (Select Committee on Housing Affordability in Australia, 2008). One may conclude such a large growth in housing costs results from pressures caused by people consuming more than one unit of housing. What is most worrying is that it is those that have the lowest income after housing costs, the 25 percentile that has had the greatest growth in housing costs. Its growth in income is comparable to other categories of population, but their housing costs growths are dramatically higher. This population/household category is the most vulnerable to housing pressures. This is where an effective safety net should be further developed in Australia. In 1996 there was a considerable waiting list for those trying to get into public housing (Hayward, 1996). Any reduction in the stock of public housing will force more low income tenants into the private rental system. In terms of this assisting those who are most disadvantaged this is not the most appropriate thing to do. The cost and quality of the public stock is in question. The redevelopment of the stock that existed at the start of the survey period is of worry if replacement stock is not introduced for future generations (Arthurson, 1998).

There was a withdrawal of the Commonwealth government from direct involvement in public housing funding and a rapid expansion of rental assistance for private tenants. This was due to worries about public housing. It was found that those in public housing were not poor and the majority of the poor were not in public housing (Yates, 1997). Public housing still has an important role to play. It acts as a safety net for those not able to cope in their present situation. Therefore, a further reduction in the stock of public housing would have a disastrous effect, with the private sector not being able to replace public housing. Private housing is, of course, privately owned. Hence reliability of tenants is a priority and, unlike the public sector, landlords have to be able manage their property to their greatest advantage.

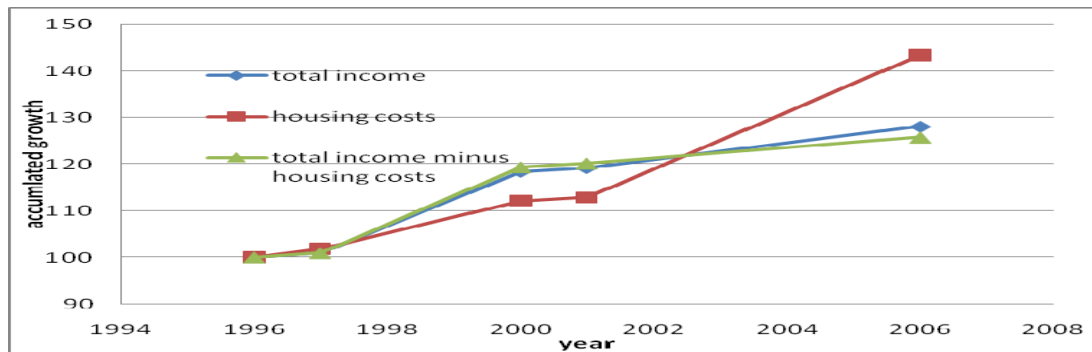


Figure 3.3.5 The mean results for accumulative growth for households consuming one housing unit

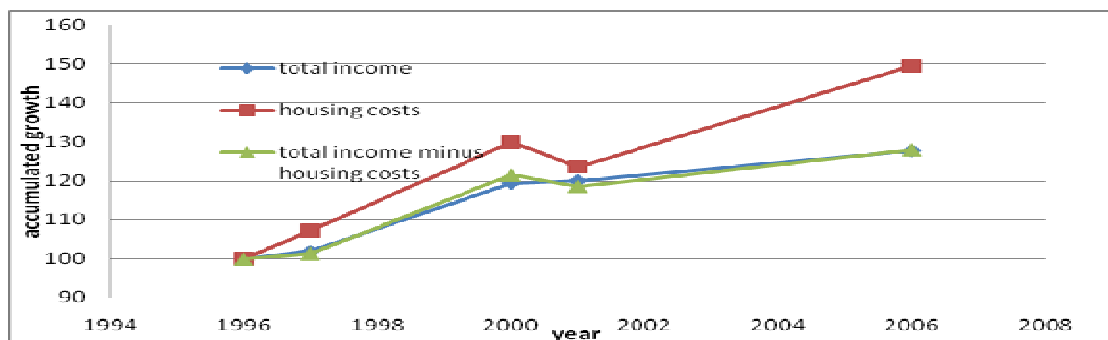


Figure 3.3.6 The median results for accumulative growth for households consuming one housing unit

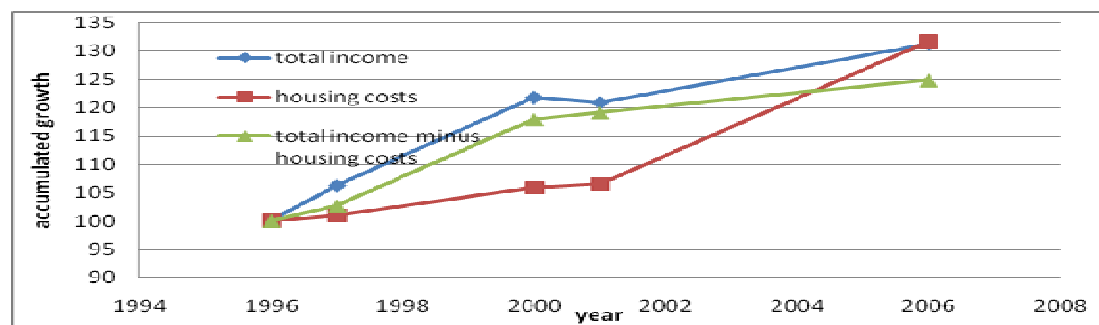


Figure 3.3.7 The 25 percentile result for accumulative growth for households consuming one housing unit

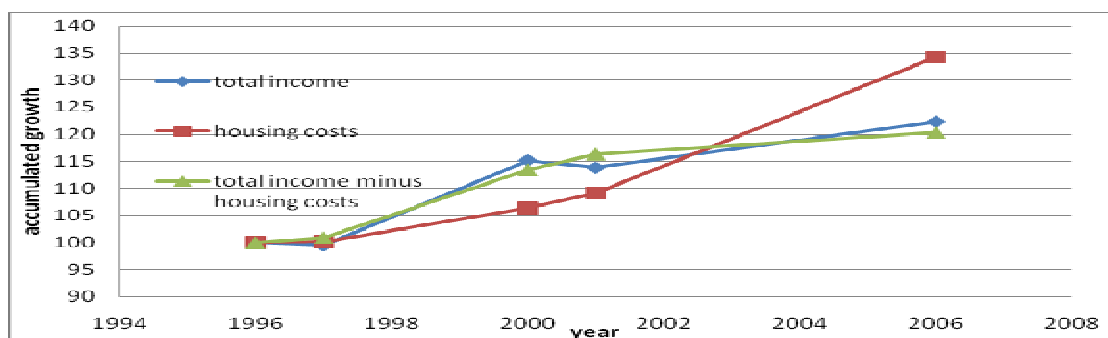


Figure 3.3.8 The 75 percentile result for accumulative growth for households consuming one housing unit

With respect to households consuming one unit of housing, all variables increased over the survey period. Within the trend, though, in all but the median, total income and income after housing increased at a greater rate than housing costs up to 2001. After that housing costs increased and by 2006 had either overtaken or were equal in growth.

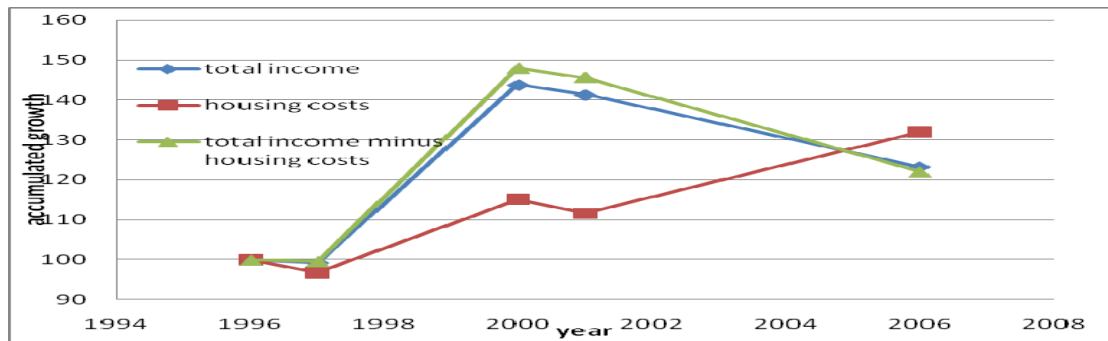


Figure 3.3.9 The mean result for accumulative growth for households consuming more than one housing unit

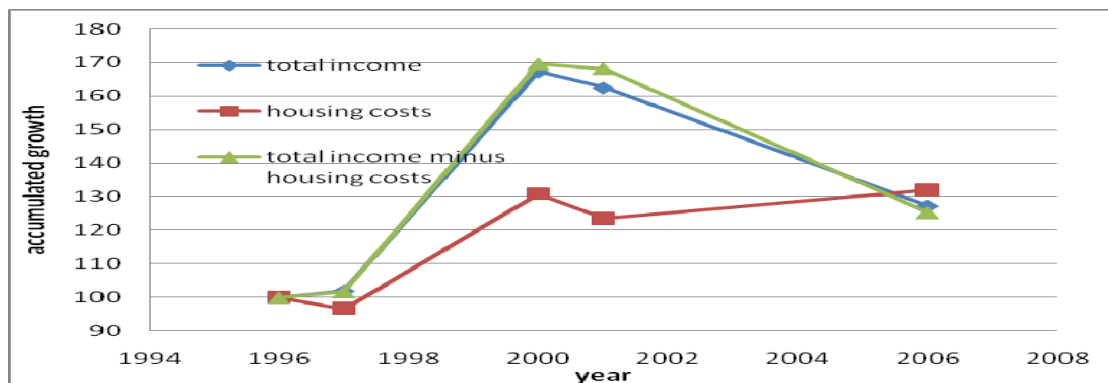


Figure 3.3.10 The median result for accumulative growth for households consuming more than one housing unit

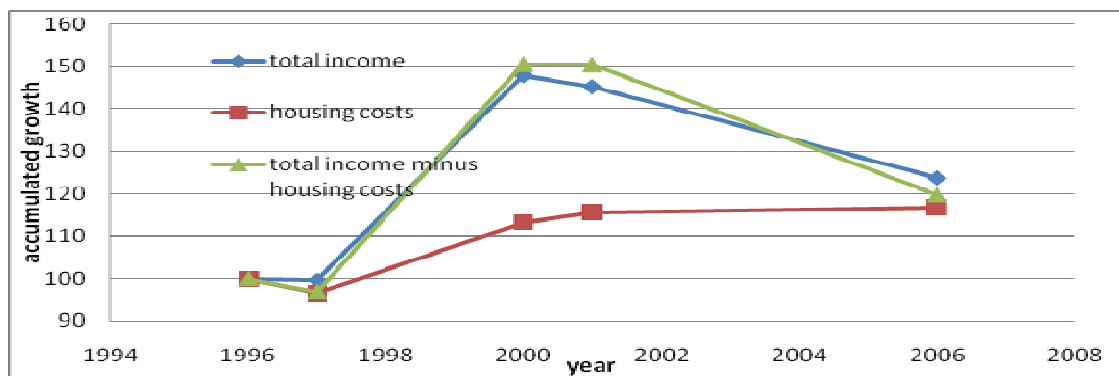


Figure 3.3.11 The 25 percentile result for accumulative growth for households consuming more than one housing unit

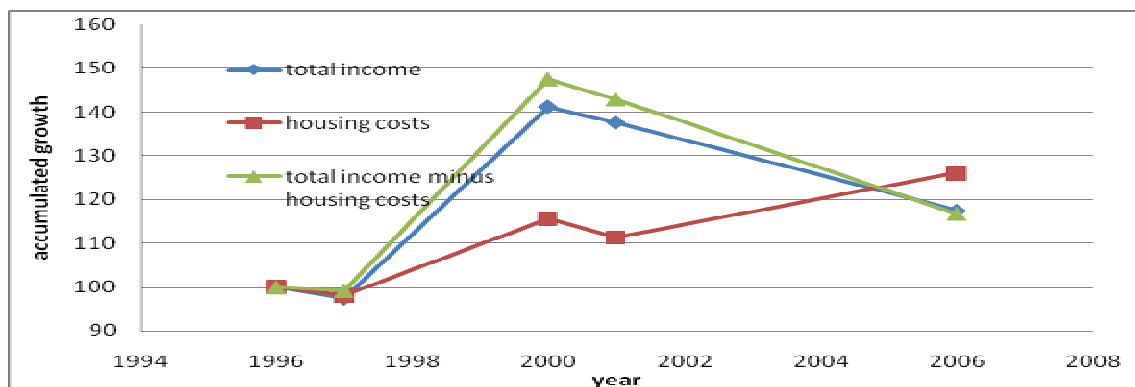


Figure3.3.12 The 75 percentile result for accumulative growth for households consuming more than one housing unit

The households that consume more than one unit of housing had a massive increase in total income and income after housing cost between 1996 and 2001. After 2001, both of these variables fell (which is in stark contrast to the other consumption levels) to a point at which housing costs growth became greater than the incomes. The income variables increased by over 50 percent to 2001 but by 2006 the variables barely had a 20 percent growth from 1996.

The result in figures from 3.3.9 to 3.3.12 resembles a business cycle. With the increase in income levels, there was increased level of demand in the housing market, by this segment of population, consuming more than one unit of housing. Those consuming more than one unit of housing have a larger disposable income and a greater discretion when it comes to house purchasing. With this greater income level consumption increased, as people could upgrade from their existing housing (Urban development institute of Australia, 2007). This upgrading of housing naturally led to an increase of housing prices. Consequently, additional investors were attracted into the housing market that caused further increase in housing prices as well as increase in the wealth of current owners residential and investment property owners. Housing costs then further increased, this had a knock on effect to those consuming one or less units of housing.

The housing market experiences business cycles similar to other markets. What appears to have been occurring at the recent time is an extended period of growth in demand (Richards, 2008). The longer this period of growth continues, the longer those in the lower section of the market will find it difficult to remain in the market, hence the need for public housing. With this extended period of growth the knock on effect has lead to those in the middle of the market start to feel the pressure, as shown in section 3.1.

3.4. Households below the Poverty Line

This section is concerned about the proportion of different types of households below the poverty line after housing. This gives a comparison of what household types are most in need after housing costs have been taken into consideration.

The area of concern is that of single and single parent with one child households. According to the survey data, an alarming number of household in this category are below the poverty line after housing costs. This can mean a lack of appropriate or affordable housing for these people. Hence they have to pay a greater amount for their housing than is favourable to them. It could also mean that these household types fail to earn enough in terms of total income.

after housing	1996	1997	2000	2001	2006
single	156.67	159.38	180.06	192.00	234.08
couple	227.78	231.70	261.78	279.13	340.31
couple plus one	283.14	288.02	325.41	346.97	423.02
couple plus two	338.50	344.33	389.03	414.81	505.72
single parent plus one	215.18	218.90	247.31	263.70	321.49

Table 3.4.1 Melbourne University's income after housing poverty line (4 per week)

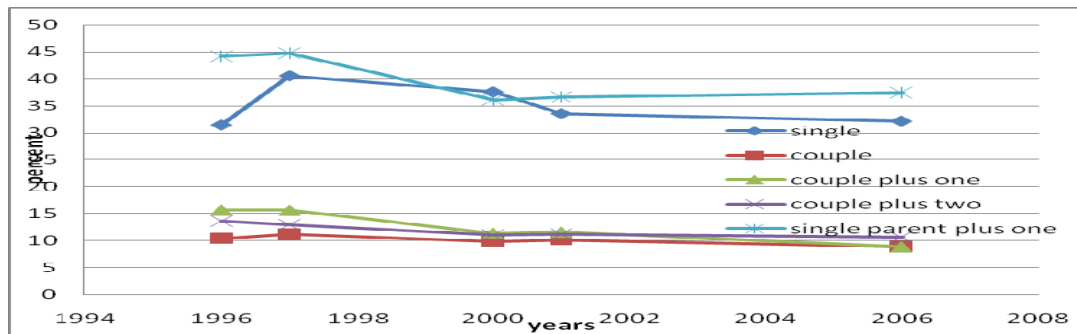


Figure 3.4.1 The percentage of households below the poverty line after housing for corresponding household type produced by the poverty line

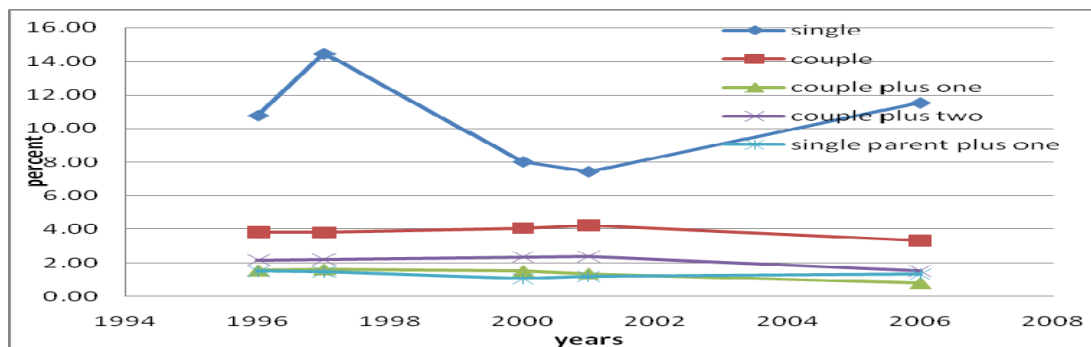


Figure 3.4.2 The weighted average of households against the poverty line after housing from the sample

The weighted average of single households still results in a large proportion of them being below the poverty line after housing. The weighted averages do not include the entire sample due to household type clusters not matching up between Melbourne University's poverty line and the surveys variables. However, the average values still manage to contain over 60% of the observations in most of the surveys. In 2006, 74% of the survey sample is accounted for with these household combinations, with close to 12% of the single households shown as in poverty after housing as a weighted average of the household matching with the poverty line. In this household type, singles, alone there is a 30% below the poverty line after housing costs. For a developed country it is unsatisfactory that so many are in this situation, a situation that can lead to long term problems as people forgo some necessities to survive.

3.5 Single and couples below the poverty line after housing, by age, income and consumption of housing

In this section single person and couple households below the poverty line after housing are further considered clustered by age, income and consumption of housing

		Income after housing costs
Mean		126.72
Median		178.00
Percentile	25	116.50
	75	209.99

Table 3.5.1 The income in Australian dollars after housing costs for singles below the poverty line after housing in 2006

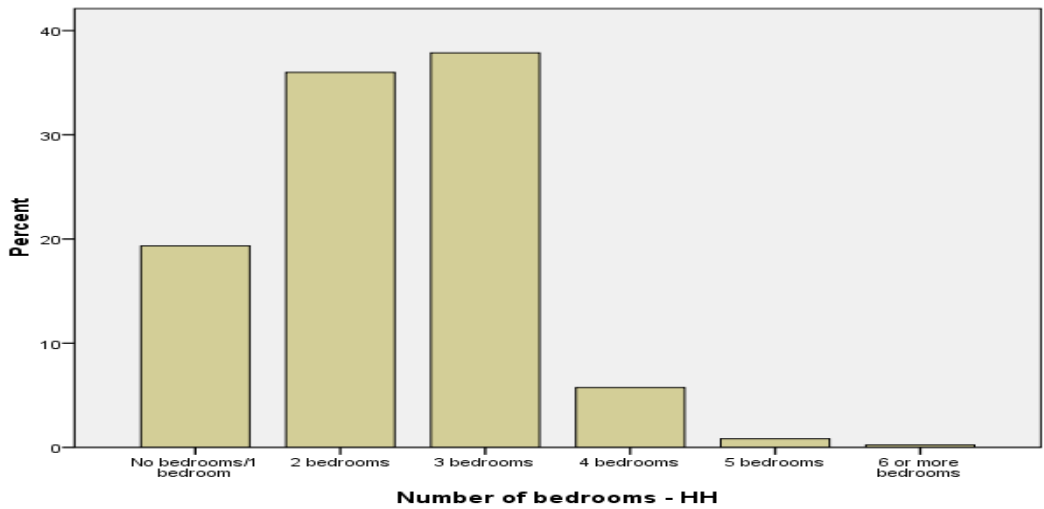


Figure 3.5.1 The spread of bedroom numbers for single person households below the after housing poverty line in 2006

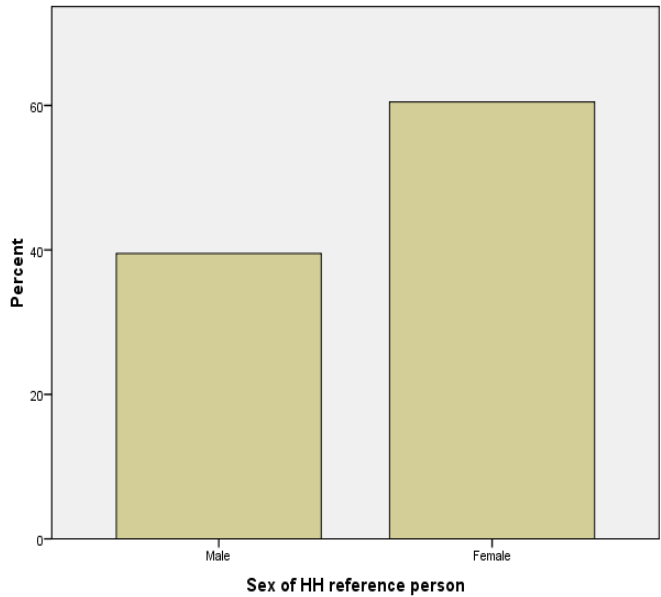


Figure 3.5.2 The sex of singles below the poverty line after housing in 2006

Number of bedrooms - HH					
No bedrooms/1 bedroom	2 bedrooms	3 bedrooms	4 bedrooms	5 bedrooms	6 or more bedrooms
145.85	132.83	119.94	108.66	-154.88	132.94

Table 3.5.2 The mean income in Australian dollars after housing costs by bedrooms for singles below the poverty line in 2006

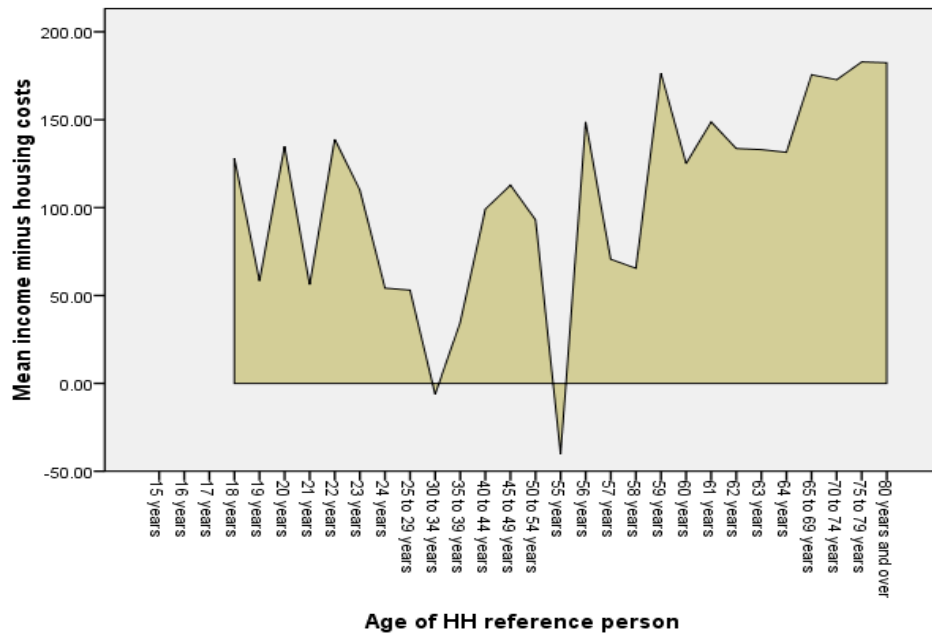


Figure 3.5.3 The mean income in Australian dollars after housing costs for singles below the poverty line over age groups in 2006

	Income after housing costs
Mean	135.78
Median	234.00
Percentile 25	87.88
75	303.88

Table 3.5.3 The income in Australian dollars after housing costs for couples in 2006

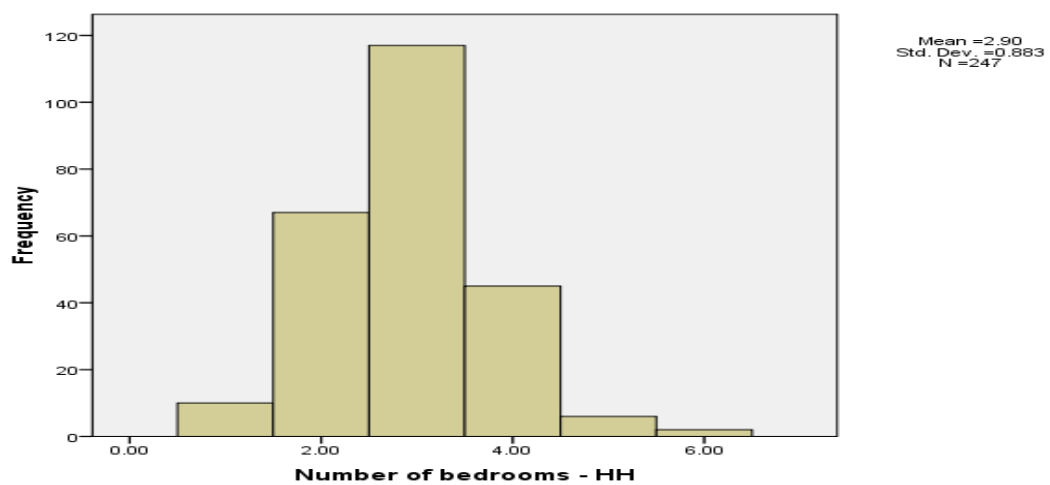


Figure 3.5.4 The distribution of bedroom numbers for couple households below the after housing poverty line in 2006

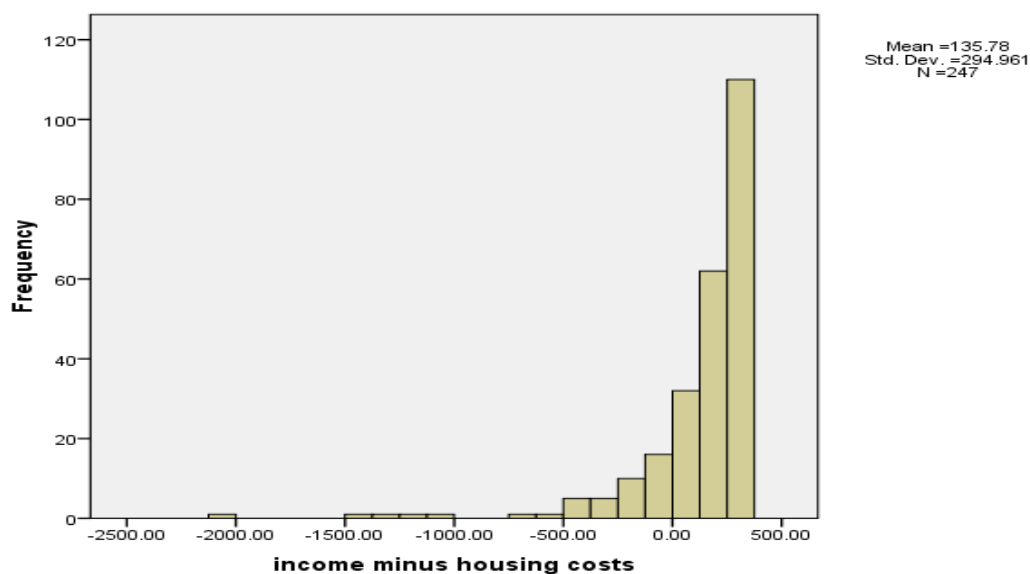


Figure 3.5.5 The distribution of incomes minus housing costs for couple households below the poverty line after housing in 2006

Number of bedrooms - HH					
No bedrooms/1 bedroom	2 bedrooms	3 bedrooms	4 bedrooms	5 bedrooms	6 or more bedrooms
240.62	156.87	154.66	75.28	-206.86	190.00

Table 6.5.4 The mean income in Australian dollars after housing costs by bedrooms for couple households below the poverty line in 2006

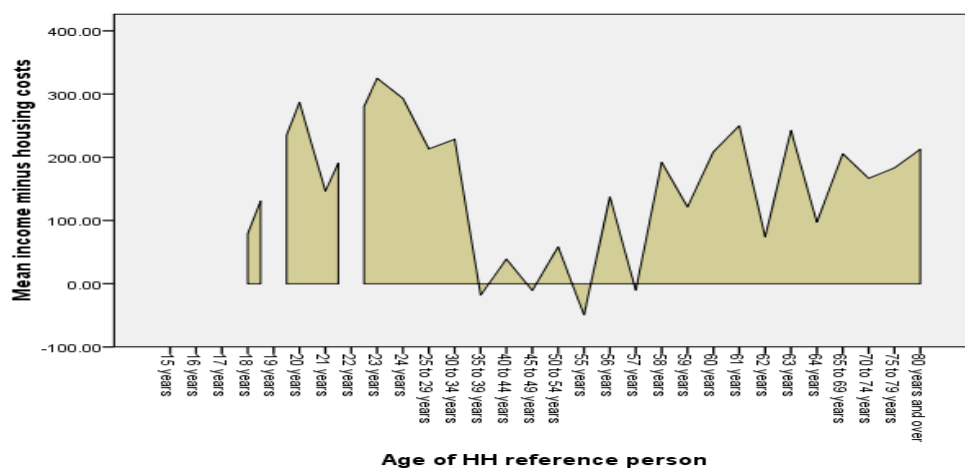


Figure 6.5.6 The mean income in Australian dollars after housing costs for couples below the poverty line over age groups in 2006

There appears to be a greater percentage of females in this cluster than males. The number of bedrooms that a single person consumes is of concern. The data demonstrates a

clear misallocation of housing. People do not place themselves into poverty to simply consume three bedrooms per one person. Since households are presumably rational utility-maximisers, every household is by definition paying “just what it can afford” for housing (M. E Stone, 2006). To place oneself in poverty after housing due to such a high housing consumption level shows a clear lack of appropriate housing, which, in terms of this cluster, translates into affordable housing. There needs to be an increase in supply of smaller housing, this to coincide with the reduction in household sizes (Select Committee on Housing Affordability in Australia, 2008)

The 25 percentile of income after housing for couple households is lower than for single for the same measure. Those couple households that are consuming one bedroom per person have a much larger mean income after housing costs than those in other bedroom types. Younger couples appear to be better off, in terms of mean income values, compared with other age groups.

3.6 Impact of housing upon household and the poverty line

This section examines the impact housing upon the percentage of households below the poverty line. The difference between the proportion of households in poverty after housing and those in poverty before housing is considered. If this difference is negative then there are more people in poverty before housing as compared to those in poverty after housing expenses have been met.

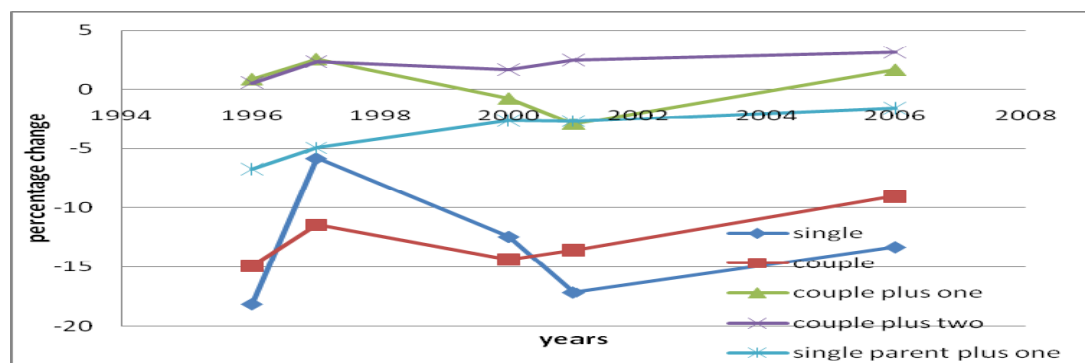


Figure 3.6.1 The difference between percentages below poverty after housing minus those below it before housing.

Figure 3.6.1 shows that housing actually “reduces” the incidences of poverty. For all the years and for all household types that are below zero, the situation actually improves once housing has been accounted for. What this surprisingly shows is that there is affordable housing and the major reason that people find themselves below the poverty line is primarily due to a low income, though incidences of affordable housing is been reduced shown by the positive slope of the lines from 2001. This further demonstrates the importance of affordable housing. Policies towards supply of housing can create more jobs in the building industry, increase supply, and reduce demand pressures in the housing market, and reduce the impact of poverty on households.

Toward Better Housing Policies

The suggested detailed analysis of Income and Housing Surveys clearly identifies the particular clusters of households that should be targeted by housing polices. They are low to

median income households, the age group of 45 to 60, as well as single person and single parent with one child households. The focus should be directed, however, on those consuming less than one unit of “consumption of housing”.

In conclusion, what kind of policies can really make a difference? Demand side policies inject funds into the housing market through rent assistance, capital subsidies, and first home saver account. In contrary, supply side policies aim at increasing supply of housing through public housing programs, “housing affordability fund”, release of land, or easing the process and/or costs of selling.

Unfortunately, the focus of the recent housing policies in Australia has been on the demand side. Demand policies such as rent assistance increase disposable income for families. The intention is to improve the housing situation but due to wide spread use, such policies only increase inflationary pressure both in terms of the general CPI and housing costs. As a result, not those in need of assistance gain, but the landlords. Capital subsidies policies, such as the first home buyers grant, are not effective either, due to the inflationary pressure on the housing market. This grant increases the price of real estate, probably, by the level of the subsidy, which means first home buyers do not benefit and other buyers in the market face greater competition. This leads to a transfer effect in which funds goes from the government to the vendor. First home saver account, if effectively implemented, can improve the likelihood of saving for the deposit. However, this account due to its complex nature has suffered poor uptake by major financial institutions, with the benefit being seen too low compare to what is needed to start buying, and too remote in terms during what period of time it is realistic to save a minimum necessary amount. In addition, it is also an inflationary demand side policy, even though the inflationary impact is delayed.

Therefore, there needs to be a redirection towards supply side policies. This requires more creativity in policy making, but potentially such policies can be more effective. As long as the established real estate market is concerned, a one off stamp duty free purchase should be permitted, if the buyers are downsizing their family residence once the children have left. This might increase the supply of family homes to the market instead of keeping them under-occupied, prevent excessive construction of new large family homes, and redirect supply to the smaller and cheaper segment of the new housing market.

Meanwhile, if the first home buyers grant would be redirected to fund new public housing, many new units might be designed and constructed targeting the types households that are most in need. This redirection of funding would also stimulate activity in the building industry, as funds would be directly injected into construction.

If properly designed, such a policy would not contradict the Australian dream of owning a home. First of all, direct public supply at the lower end of the housing market would ease the pressure on the private sector, and potentially could move the price down. Secondly, increase in the supply of public housing and reconsidering eligibility criteria, might make more families eligible. However, the currently used public housing rent policy, where rent is calculated as a proportion of income, should be retained. Then, those families would move out of the public sector, whose income and, therefore, rent would have increased to the level at which buying (or renting) a better residence outside of the public sector would appear to be more cost-efficient than continuing renting a basic one from the public sector. In conclusion, an attention should be given to the use of public-private partnerships in the housing industry.

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